

## CENTRAL INTELLIGENCE AGENCY

## INFORMATION REPORT

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SECURITY INFORMATION

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COUNTRY	Hungary	REPORT	
SUBJECT	"Midget" Hydroelectric Plants	DATE DISTR.	21 April 1953
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This is UNEVALUATED Information

THE SOURCE EVALUATIONS IN THIS REPORT ARE DEFINITIVE.  
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(FOR KEY SEE REVERSE)

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1. In 1950 the Water Supply Administration (Vizgazdálkodási Csoport) of the National Planning office yielded to the demands of the Soviet Commission and began investigating the possibility of establishing "midget" hydroelectric plants similar to those in the USSR.
2. Small, already existing hydroelectric plants of less than 100 h.p. were inspected first to see how much of the machinery needed to be repaired or replaced. Hydroelectric plants which had been shut down were put into operation again.
3. Fourteen hydroelectric plants were to be rebuilt and put back into operation in 1952:

<u>Location of Plant</u>	<u>Horsepower</u>
Bikk	32
Csepreg I	20
Csepreg II	20
Genosapat I	43
Genosapat II	25
Herény	25
Hermán	35
Felsősátság	75
Kőszeg	22.5
Lipárt	35

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STATE	X	ARMY	X	NAVY	X	AIR	X	FBI		AEC		OSI	Ev	X		
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(Note: Washington Distribution Indicated By "X"; Field Distribution By "#".)

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<u>Location of Plant</u>	<u>Horsepower</u>
Lukácsháza	48
Pornápati	110
Szentpéterfa	115
Felsődobzsa	90

4. Fifty other "midget" plants are to be rebuilt in 1953, but they had not been designated by the end of October 1952. Theoretically they will be operated near communities, state farms, large machine stations and smaller industrial plants. These small power plants are expected to save several hundred carloads of coal per year.
5. The Planning Office intends to have these power plants transmit energy to the established power lines. Different types of turbines are to be used but, the power plants will be completely identical in all other details. The water turbines will drive an induction generator by means of a V-belt. The speed of the generator will be controlled by an oil circuit breaker. The circuit breaker will also serve as a safety device and will operate by activating a quick-shutting sluice which will stop the water inflow to the turbine if the machinery gets out of control.
6. Plans call for the general use of Kaplan type turbines the blades of which are built into the water intake pipes and can therefore utilize short drops of 2 to 6 meters. The turbines will be equipped with runners 500 mm. in diameter. 800 - 1000 liters of water per second will pass through each runner. The runners will have a fixed-blade master wheel turning at the rate 600-700 revolutions per minute. The blades of the revolving runners are adjustable and can be stopped by the oil circuit breaker. The runners must be adjustable to allow for regulation by the water level of the canal. Since the turbines are started manually, it will be necessary to employ attendants. However, one attendant can take care of several power plants in the same vicinity and there are automatic devices which will signal the breakdown of the turbine or any undue rise in the water level.
7. The even simpler Francis turbine is to be used also, but will probably be regulated manually although it, too, can be installed in such a way as to be automatically regulated by the level of the water.
8. If the government decides to put up still smaller power plants with an output of 5-10 horsepower, it will be necessary to design a third type of turbine of even lower capacity. Most of the potential sources of water power in Hungary fall into the 5-10 h.p. category.

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